

What is claimed is:

1. A device capable of correcting time stamp value comprising:

an original time counter configured to generate and output an original time value;

5 a subtracter configured to receive a network time value from the outside and the original time value from the original time counter, subtract the original time value from the network time value, and output the difference as a cycle-time difference value; and

a first adder configured to receive an original time-stamp value generated from the original time value and the cycle-time difference value from the subtracter, add the cycle-
10 time difference value to the original time-stamp value, and output the sum as a time-stamp value.

2. The device of claim 1, further comprising:

a second adder configured to receive an offset value from the outside and the
15 original time value from the original time counter, add the offset value to the original time value, and output the sum as the original time-stamp value;

an original time-stamp value attacher configured to receive real-time data from the outside and the original time-stamp value from the second adder, attach the original time-stamp value to the real-time data, and output the original time-stamp value attached
20 real-time data;

a memory configured to receive the original time-stamp value attached real-time data from the original time-stamp value attacher and output the original time-stamp value attached real-time data in a first-in, first-out manner; and

an original time-stamp value separator configured to receive the original time-
25 stamp value attached real-time data from the memory, separate the original time-stamp value attached real-time data into the original time-stamp value and the real-time data, and

output the separated original time-stamp value and real-time data.

3. The device of claim 2, further comprising:

5 a CIP (common isochronous packet) header generator configured to receive the time-stamp value from the first adder, generate a CIP header containing the time-stamp value, and output the CIP header; and

an ISO (isochronous) packet generator configured to receive an ISO header from the outside, the CIP header from the CIP header generator, and the real-time data from the original time-stamp value separator and generate an ISO packet containing the received
10 ISO header, CIP header, and real-time data.

4. The device of claim 2, further comprising:

a CIP (common isochronous packet) header generator configured to generate and output a CIP header; and

15 an ISO (isochronous) packet generator configured to receive an ISO header from the outside, the CIP header from the CIP header generator, the time-stamp value from the first adder, and the real-time data from the original time-stamp value separator and generate an ISO packet containing the received ISO header, CIP header, time-stamp value, and real-time data.

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5. The device of claim 3, further comprising:

an output controller configured to receive the ISO packet from the ISO packet generator and transmit the ISO packet according to a predetermined communication protocol.

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6. The device of claim 4, further comprising:

an output controller configured to receive the ISO packet from the ISO packet generator and transmit the ISO packet according to a predetermined communication protocol.

5 7. The device of claim 3, the device is a semiconductor device.

8. The device of claim 5, the device is a transmitting device.

9. A method of correcting a time stamp value comprising:

10 receiving a network time value and an original time value in a subtracter,
subtracting the original time value from the network time value, and outputting the
difference as a cycle-time difference value; and

 receiving an original time-stamp value and the cycle-time difference value in a
first adder, adding the cycle-time difference value to the original time-stamp value, and
15 outputting the sum as a time-stamp value.

10. The method of claim 9, further comprising:

 receiving an offset value and the original time value at a second adder, adding the
offset value to the original time value, and outputting the sum as the original time-stamp
20 value;

 receiving real-time data and the original time-stamp value at an original time-
stamp value attacher, attaching the original time-stamp value to the real-time data, and
outputting the original time-stamp value attached real-time data;

 receiving the original time-stamp value attached real-time data at a memory and
25 outputting the original time-stamp value attached real-time data in a first-in, first-out
manner; and

receiving the original time-stamp value attached real-time data from the memory at an original time-stamp value separator, separating the original time-stamp value attached real-time data into the original time-stamp value and the real-time data, and outputting the separated original time-stamp value and real-time data.

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11. The method of claim 10, further comprising:

receiving the time-stamp value at a CIP (common isochronous packet) header generator, generating a CIP header containing the time-stamp value, and outputting the CIP header; and

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receiving an ISO header, the CIP header, and the real-time data from the original time-stamp value separator at an ISO (isochronous) packet generator, and generating an ISO packet containing the received ISO header, CIP header, and real-time data.

12. The method of claim 10, further comprising:

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outputting a CIP header from a CIP header generator; and

receiving an ISO header, the CIP header, the time-stamp value from the first adder, and the real-time data from the original time-stamp value separator at an ISO (isochronous) packet generator and generating an ISO packet containing the received ISO header, CIP header, time-stamp value, and real-time data.

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13. The method of claim 11, further comprising:

receiving the ISO packet from the ISO packet generator at an output controller and transmitting the ISO packet according to a predetermined communication protocol.

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14. The method of claim 12, further comprising:

receiving the ISO packet from the ISO packet generator at an output controller

and transmitting the ISO packet according to a predetermined communication protocol.